

WHAT IS CLAIMED IS:

- 1 1. A system for transmitting an optical signal to a plurality of receivers
2 comprising:
3 an optical transmitter for transmitting the optical signal, wherein the optical
4 signal is allocated in a number of time slots corresponding to the plurality of receivers;
5 a time-dividing device for time-dividing the optical signal received from the
6 optical transmitter,
7 wherein the optical signal is time-divided for a receiver by bending the signal
8 with the time-dividing device at the time slot corresponding to the receiver so the receiver
9 can receive the bent optical signal, wherein the bent optical signal includes information just
10 for the receiver.
- 1 2. The system of claim 1, further comprising an end device, wherein the
2 bent optical signal is transmitted to the end device from the receiver.
- 1 3. The system of claim 1, wherein the optical transmitter comprises a
2 laser.
- 1 4. The system of claim 1, wherein the optical transmitter comprises a
2 microwave source.
- 1 5. The system of claim 1, wherein the optical transmitter comprises a
2 radio frequency source.
- 1 6. The system of claim 1, wherein the time-dividing device comprises a
2 catadioptric device.
- 1 7. The system of claim 1, wherein the time-dividing device comprises a
2 rotating mirror.
- 1 8. The system of claim 1, wherein the time-dividing device comprises an
2 optical switching device.
- 1 9. A system for time-dividing an optical signal for a plurality of receivers
2 comprising:

3 an optical transmitter for transmitting the optical signal, wherein the optical
4 signal is allocated in a number of time slots corresponding to the plurality of receivers;
5 a catadioptric device for time-dividing the optical signal received from the
6 optical transmitter,
7 wherein the optical signal is time divided for a receiver by bending the signal
8 at an angle with the catadioptric device at the time slot corresponding to the receiver so the
9 receiver can receive the bent optical signal, wherein the bent optical signal includes
10 information just for the receiver.

1 10. The system of claim 9, further comprising an end device, wherein the
2 bent optical signal is transmitted to the end device from the receiver.

1 11. The system of claim 9, wherein the catadioptric device is a reflective
2 device.

1 12. The system of claim 9, wherein the catadioptric device is a refractive
2 device.

1 13. The system of claim 9, wherein the optical transmitter comprises a
2 laser.

1 14. The system of claim 9, wherein the optical transmitter comprises a
2 microwave source.

1 15. The system of claim 9, wherein the optical transmitter comprises a
2 radio frequency source.

1 16. A method for time dividing an optical signal for a plurality of
2 receivers, the optical signal including a plurality of time slots corresponding to the plurality
3 of receivers, the method comprising:

4 transmitting the optical signal;

5 bending the optical signal at a plurality of angles at the plurality of time slots,
6 wherein the optical signal is bent at an angle so a receiver corresponding to the time slot can
7 receive the signal, wherein the bent optical signal includes information just for the receiver.

1 17. The method of claim 16, further comprising transmitting the bent
2 optical signal to an end receiver.

1 18. The method of claim 16, wherein bending the optical signal comprises
2 reflecting the optical signal.

1 19. The method of claim 16, wherein bending the optical signal comprises
2 refracting the optical signal.

1 20. A method for time-dividing an optical signal for a plurality of
2 receivers, the optical signal including a plurality of time slots corresponding to the plurality
3 of receivers, the method comprising:

4 transmitting the optical signal;
5 time-dividing the optical signal at the plurality of time slots, wherein the
6 optical signal is bent so a receiver corresponding to the time slot can receive the signal,
7 wherein the bent optical signal includes information just for the receiver.

1 21. The method of claim 20, further comprising transmitting the bent
2 optical signal to an end receiver.

1 22. The method of claim 20, wherein bending the optical signal comprises
2 reflecting the optical signal.

1 23. The method of claim 20, wherein bending the optical signal comprises
2 refracting the optical signal.